

"Balancing People and Possibility: Population and Family Planning in India"

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Abstract

Population explosion has become a significant challenge for India, affecting the country's economic development, environmental sustainability, and social well-being. Rapid population growth increases pressure on limited resources such as food, water, housing, education, and healthcare, which in turn contributes to poverty, unemployment, and environmental degradation. India has experienced a substantial rise in population over the past decades, creating the need for effective policies and strategies to maintain a balance between population growth and economic development.

Family planning plays a crucial role in addressing the issue of population explosion by enabling individuals and couples to control the number and spacing of their children. The Government of India initiated the national family planning program in 1952, making India the first country in the world to adopt an official population control policy. Through various initiatives such as awareness campaigns, access to contraceptive methods, sterilization services, and reproductive health education, the program aims to promote smaller family norms and improve maternal and child health.

This study highlights the causes and consequences of population explosion in India and examines the importance of family planning as an effective strategy for population control. It also discusses the social, economic, and environmental impacts of rapid population growth and the role of government policies in promoting sustainable population management. Effective implementation of family planning programs and increased public awareness are essential to ensure balanced population growth and long-term national development (World Health Organization; United Nations Population Fund).

Keywords: Population, Explosion, Family planning, Poverty, Unemployment

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Introduction

The world's population has grown at a rapid, exponential rate over the last few decades. Around 1810, the global population was roughly 1 billion, and it doubled to 2 billion in about a hundred years. By 1975, it had risen to nearly 4 billion, and by 2019, it had reached approximately 7.7 billion [1,2].

Some demographic scientists estimate that the carrying capacity of Earth could range broadly from about 4 billion up to around 15–16 billion, depending on resource availability and consumption patterns [3]. It can be said that population explosion or human overpopulation may already have occurred on Earth. According to recent

estimates, the world population could reach roughly 10–11 billion between the years 2030 and 2100 under medium-variant projections [1,2].

After the Republic of China, India is the most populous country in the world. Presently, India is the second-largest populated country, occupying about 2.4 % of the world's land area while representing about 17.8 % of the world's population, meaning roughly one out of six people on this planet is Indian (4). It is estimated by the United Nations that India, with about 1.46 billion inhabitants, has already surpassed China's population to become the world's most populous country (4,5). Population explosion is considered a threat and a burden on the Earth due to the

associated pressure on resources and sustainability challenges [1,2].

Population explosion refers to the sudden and rapid rise in the size of a population, especially the human population. It is an unchecked growth of human population resulting from increased birth rates, decreased infant mortality rates, and improved life expectancy [6,8]. A drastic growth in population beyond normal limits is called population explosion. It is more prominent in underdeveloped and developing countries than in developed countries due to differences in fertility rates, access to healthcare, education, and economic development [6,8]. While a population explosion can be an indicator that a species is thriving, such a sudden increase can also throw an ecosystem out of equilibrium. In human populations, for instance, a sudden increase could result in a scarcity of resources or a reduction of employment opportunities.

The population explosion in India refers to the rapid and unprecedented growth of the country's population over the past century. Since gaining independence in 1947, India has experienced significant population increases due to factors such as high birth rates, declining death rates, improved healthcare and sanitation, and increased life expectancy [9,10].

Rapid declines in mortality rates coupled with persistently elevated fertility rates created a widening gap between births and deaths, leading to exponential population growth [10,11]. Improvements in public health initiatives, vaccination programs, and access to basic medical care helped reduce infant and general mortality, while cultural and social factors sustained high birth rates for decades [12].

The population explosion has led to numerous challenges, including pressure on resources such as land, water, and food, strain on infrastructure and public services, environmental degradation, and difficulties in providing adequate education, healthcare, and employment opportunities for citizens [13,14]. Rapid population growth intensifies demand for natural resources and contributes to unsustainable patterns of development [15,16]. Efforts by the Indian government and various organizations aim to address these challenges through policies and programs focused on population stabilization, family planning, education, and economic development [17,18].

Factors contribute to the increase in population in India

High Birth Rates: Despite a decline in recent decades, India still has relatively high birth rates, with many families having multiple children. Cultural and social factors, such as the desire for larger families, traditional values, gender difference, universality and early marriage, low standard of living and lack of awareness about family planning methods, contribute to this trend [19,20].

Declining Death Rates: Advances in healthcare, sanitation, and medical technology have led to a decrease in mortality rates in India. Reduced infant mortality, better disease control, and improved access to healthcare services have contributed to longer life expectancies, resulting in a larger population [19,20].

Lack of Family Planning: Access to and awareness about family planning methods vary across different regions and socio-economic groups in India. Limited access to contraceptives, cultural barriers, and inadequate education about reproductive health contribute to a lack of family planning, leading to unplanned pregnancies and population growth [19,20].

Social Norms and Religious Beliefs: Cultural and religious beliefs often influence attitudes towards family size and contraception. In some communities, having more children is considered desirable for reasons such as ensuring family lineage, providing support in old age, or conforming to traditional norms [21-23].

Lack of Education: Low levels of education are closely linked to high population growth. Limited access to education, especially for women, can result in early marriages and pregnancies, as well as a lack of awareness about family planning methods [24,25].

Urbanization: Urbanization is another factor contributing to population growth in India. Rural-to-urban migration, driven by the search for better economic opportunities, leads to population concentration in urban areas, where birth rates tend to be higher than in rural areas [24,26].

Poverty: Population growth and poverty are closely interconnected. High birth rates are often associated with poverty due to factors such as limited access to education, healthcare, and employment opportunities. Conversely, poverty can also contribute to population growth by perpetuating a cycle where families have more children as a means of economic support or social security. Breaking this cycle requires addressing the root causes of poverty through targeted interventions in education, healthcare, and economic development [27,28].

Impact of family planning on population explosion

Family planning is a crucial public health intervention aimed at regulating population growth while simultaneously enhancing maternal and child health, economic well-being, and women's empowerment. It enables individuals and couples to determine the number of children they wish to have and to space pregnancies appropriately. Globally, an estimated 214 million women of reproductive age in developing countries who wish to avoid pregnancy are not using modern contraceptive methods, highlighting a substantial unmet need for family planning services [29]. In countries such as India, where rapid population growth remains a significant concern, increasing awareness about the adverse effects of population expansion and promoting effective family planning practices are essential.

Contraception is the primary means through which family planning is achieved. The benefits of family planning are extensive and include the prevention of pregnancy-related health risks, reduction in maternal and infant mortality, decreased transmission of HIV/AIDS, empowerment of individuals—particularly women—prevention of adolescent pregnancies, and moderation of population growth [29,30]. By preventing unintended pregnancies, contraception also reduces the incidence of unsafe abortions and their associated complications, thereby contributing to improved maternal and neonatal outcomes [30].

Various contraceptive methods are available to support family planning. These include long-acting reversible contraceptives (such as intrauterine devices and implants), hormonal methods (including oral contraceptive pills and injectables), barrier methods (such as condoms), emergency contraception, fertility awareness-based methods, and permanent solutions like vasectomy and tubal ligation [29].

The primary objective of family planning is to prevent unintended pregnancies, which are closely linked to poor health outcomes for women and children worldwide. It ensures that couples have adequate time, social support, environmental stability, and financial resources to provide proper care and upbringing for their children. Furthermore, effective family planning contributes to sustainable population growth and positively influences the overall socio-economic development of a nation [30]. Family planning is a key factor in controlling the rate of population growth as well as improving health, economic stability, and women's empowerment. It is considered an important strategy for controlling population explosion. Family planning helps individuals control the number of children they have and decide the interval between births. Research indicates that about 214 million women of reproductive age in developing countries who do not wish to become pregnant are not using modern contraceptive methods [31].

India is already facing challenges due to overpopulation. Therefore, people in the country need to be sensitized about the negative effects of population explosion and educated about the importance of family planning. Birth control is the primary method through which individuals practice family planning. There are numerous benefits associated with family planning, including the prevention of pregnancy-related health risks in women, reduction of infant mortality, prevention of HIV/AIDS, empowerment of individuals, reduction of adolescent pregnancies, and slowing population growth [32].

Family planning or contraception also reduces the risks associated with unsafe abortions. When unwanted pregnancies are avoided through family planning and contraceptive methods, maternal and infant mortality rates decline significantly [33]. Furthermore, family planning contributes to improved maternal health and supports women in making informed reproductive choices.

There are many types of family planning methods that help in birth control. These methods include long-acting reversible contraception, hormonal contraception, barrier methods, emergency contraception, fertility awareness methods, and permanent contraception such as vasectomy and tubal ligation [34].

The main purpose of family planning is to avoid unwanted pregnancies, which are often associated with poor health outcomes for women and children worldwide. Family planning ensures that couples have sufficient time and social, environmental, and financial resources necessary for raising a child. In addition, family planning contributes to sustainable population growth and supports the overall development of a country [35].

Education and empowerment are among the most effective strategies for addressing the persistent rise in global population. Raising public awareness about the consequences of rapid population growth is essential. The issue extends beyond the strain on available resources and their consumption; it also involves ensuring an improved quality of life for both present and future generations. Family planning and effective birth control measures represent fundamental steps toward achieving a gradual reduction in population growth rates [36].

Globally, nearly 40% of pregnancies are unintended, many of which could be prevented through the appropriate use of modern contraceptive methods such as oral contraceptive pills, condoms, and intrauterine devices [36,37]. Despite this, approximately 350 million women in developing countries lack adequate knowledge about contraceptive options and access to family planning services [37]. Providing comprehensive education and ensuring affordable access to contraceptives can significantly contribute to population stabilization while simultaneously enhancing the health, autonomy, and overall quality of life of women and their children [37]. Several nations have adopted policies encouraging smaller family norms, often promoting a two-child family model to help regulate birth rates. Additionally, male sterilization has been advocated as a safe and effective method of permanent contraception. Implementation of such measures in various countries has demonstrated positive outcomes in reducing population growth rates [36,37].

The most important way to combat a steady rise in the population is education and empowerment. The impacts of a growing population need to be brought to the attention of all. It is not only the question of available resources and its consumption, but it is also a concern about providing a quality life to the current and future generations. Birth control and family planning is the first step that needs to be taken to ensure a gradual decline in the growth rate of the population. About 40% of worldwide pregnancies are unintentional which can be avoided by the use of oral contraceptives or other birth control devices like condoms or intrauterine device.

About 350 million women in the developing countries of the world are unaware of birth control options or the possibilities for family planning. Educating these women and making access to the birth control devices affordable can help in not only controlling the population growth but also help to improve the quality of life for these women and their children. Many countries promote small size families limiting the number of children per family to two or fewer. Male sterilization is also promoted to help in birth regulations. This has been made effective in a number of countries and a positive impact has been seen in the growth rate of the population of those countries.

Effects of the population explosion in India

There are many effects that we can see due to population explosion in India as well as around the world in terms social, economic and as well as in political aspects.

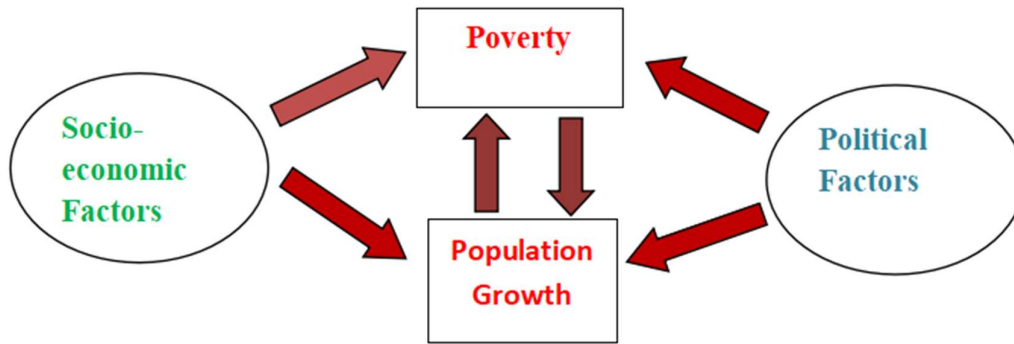


Fig 1: Interrelation between social factors economic and political factors with poverty and population growth.

Urbanisation and acquisition of land for public welfare are important socio-economic factor which change the pattern of population distribution, these factors create serious problems for mankind. Urbanisation takes place as people migrate from rural areas to cities because of better employment prospectus, educational facilities and have services. Increasing urbanisation has created a number of problems like environment, pollution, sanitation and sewage disposal, traffic problems, housing problems, disease, and mental health etc. Use of Land for Public Welfare Use of agriculture land for roads, rail lines, canals, industries, educational institution, hospitals, offices, and houses etc. [39].

Population growth and poverty are closely interconnected. High birth rates are often associated with poverty due to

factors such as limited access to education, healthcare, and employment opportunities. Conversely, poverty can also contribute to population growth by perpetuating a cycle where families have more children as a means of economic support or social security. Breaking this cycle requires addressing the root causes of poverty through targeted interventions in education, healthcare, and economic development.

Population growth reduces the Rate of Capital Formation: Due to higher birth rate and low expectation of life in these countries, the percentage of dependents is very high. Nearly 40 to 50 per cent of the population is in the non-productive age group which simply consumes and does not produce anything.

Table 1: Top 10 Countries having large Population Rank

Rank	Country	Population
1	China	1,355,692,544 2
2	India	1,236,344,576 3
3	United States	3188,92,096 4
4	Indonesia	2536,09,648 5
5	Brazil	2026,56,784 6
6	Pakistan	1961,74,384 7
7	Nigeria	1771,55,760 8
8	Bangladesh	1662,80,704 9
9	Russia	1424,70,272 10
10	Japan	1271,03,392

(Source: CIA World Factbook - Unless otherwise noted, information in this page is accurate as of January 1, 2014)

The population growth leads to poverty: Due to uncontrolled population, there is shortage of food, shelter, clothing, resources, pure drinking water etc. and a common family is not in a position to afford all the things to its members, if having a greater number of children.

Uncontrolled population leads to illiteracy: The uncontrolled population in family leads to illiteracy also. The parents are not in a position to provide better education if they are having a greater number of children and sometime the elder daughter has to sacrifice her education to take care of younger brothers and sisters.

Impact on Society

The increasing population also leads to bonded labor system: Due to increasing population, there is threat of bonded labor system. Due to the marriage of daughters, the head of the family, sometimes borrow the loan and to repay their loan with interest, he sends his son to work in

landlord's house up to repay the loan the son worked as bonded labor. Some time it continues to generation to generation.

The increasing population may lead to a rise in anti-social activities in society. When families have a large number of children and limited economic resources, it can create financial stress and social pressure within the household. This situation may result in frustration among family members and can contribute to psychological issues such as feelings of inferiority, anxiety, and depression. In some cases, these social and economic pressures may push individuals—especially youth—toward anti-social or criminal activities as a quick means of earning money. Such conditions may also contribute to the growth of underground or illegal economic activities in densely populated and economically disadvantaged areas [40,41].

Overpopulation can also increase unemployment, poverty, and inequality, which are recognized risk factors for crime and social instability. Rapid population growth in developing countries may strain public resources such as education, employment opportunities, housing, and healthcare, thereby affect social harmony and increase the likelihood of deviant or anti-social behaviors [42,43].

Impact on Environment

Hundreds of years ago, an economist named Malthus gave this warning in one of his articles. In this article, Malthus wrote that if the growing population was not controlled by self-control and artificial means, then nature would try to control it with its cruel hands. Population growth, because it can place increased pressure on the assimilative capacity of the environment, is also seen as a major cause of air, water, and solid-waste pollution. A study revealed that there is a strong negative correlation between natural resources and population determinants. It is obvious that the Land of any region is fixed (means no chance to increase or decrease) and the population is increasing in geometrical form whereas natural resources are almost constant. The study also indicated that death rates in India are declining due to better health infrastructure, awareness, and other preventive checks. At the same time air pollution, water pollution, flora fauna gases in the atmosphere are increasing but it has no significant effect on human health. Though it is affecting to economically poor, backward people, but due to the enhancement in good health infrastructure, awareness, and prevalence practices and health consciousness, it is not as much as affecting to people as other naturally declined variables are affecting to the surviving of people [44].

Due to over population more and more land is used for shelter as well as agricultural purpose and it leads to deforestation. Demands more area and to achieve this, there is deforestation. It also leads to environmental pollution.

Impact on Standard of Living

Rapid population growth has been identified as a major factor contributing to the low standard of living in India. When population increases at a faster rate than economic growth and resource generation, it places immense pressure on food supply, housing, employment, healthcare, and other essential services. As a result, even the basic necessities of life become insufficient for a large segment of the population [45].

According to Dr. Chander Shekhar, India's population increases by approximately 1.6 crore (16 million) people annually. Such an increase necessitates the additional provision of nearly 121 lakh tonnes of food grains, 1.9 lakh metres of cloth, 2.6 lakh housing units, and about 52 lakh new employment opportunities each year to maintain the existing standard of living. Meeting these expanding

demands poses a significant challenge to national planning and resource allocation [46].

Persistent population pressure can therefore dilute per capita income, aggravate unemployment, strain public infrastructure, and hinder improvements in overall quality of life [45,47].

Impact on Unemployment

Rapid population growth significantly contributes to rising unemployment, particularly in developing nations such as India. When the labour force expands more quickly than the availability of educational institutions, vocational training facilities, and employment opportunities, a large number of individuals remain either unemployed or underemployed [48].

In economies characterized by slow industrial growth and limited diversification, the capacity to generate productive employment remains inadequate. As a result, millions struggle to secure stable and gainful livelihoods, leading to economic insecurity and social instability [49].

Prolonged unemployment often results in frustration, loss of self-esteem, and psychological distress among affected individuals. Among youth, particularly, lack of employment opportunities may increase vulnerability to antisocial behaviour, crime, and social unrest, thereby posing broader challenges to law and order and national development [48,50].

Population Growth and Unemployment in India

India's rapidly increasing population has created significant challenges for the country's economic development. Rapid population growth is closely linked with other economic problems such as poverty and unemployment. As the population increases, the size of the labour force also expands, making it difficult for the economy to generate sufficient employment opportunities. Consequently, a large section of the population remains unemployed or underemployed, which slows economic progress and affects the overall standard of living [51].

Unemployment continues to be a major concern for India's economy. Being one of the most populous countries in the world, India has a large and diverse workforce, and fluctuations in employment levels have important implications for national growth and social stability. However, recent statistics indicate some improvement in the employment situation. According to the Periodic Labour Force Survey conducted by the National Sample Survey Office, the unemployment rate among individuals aged 15 years and above in urban areas declined from 8.2% in January–March 2022 to 6.8% in January–March 2023. This reduction suggests a gradual improvement in the labour market despite existing economic challenges. Nevertheless, sustained policy efforts and effective employment generation programs are essential to ensure long-term economic growth and stability in the country [52,53].

Table 2: The Unemployment Rate in India during the Period of 1991 to 2020

Year	Unemployment (%)	Year	Unemployment (%)	Year	Unemployment (%)
1991	6.74	2001	7.96	2011	8.17
1992	6.82	2002	8.10	2012	8.10
1993	6.80	2003	8.36	2013	8.04

1994	6.83	2004	8.53	2014	7.98
1995	7.01	2005	8.70	2015	7.92
1996	7.18	2006	8.63	2016	7.84
1997	7.28	2007	8.54	2017	7.73
1998	7.49	2008	8.35	2018	7.65
1999	7.71	2009	8.38	2019	6.51
2000	7.77	2010	8.32	2020	10.20

CAGR 1.73 CAGR 0.38 CAGR Over All CAGR 0.07 0.56

The table 2 presents the performance of the unemployment rate in India during the period of 1991 to 2020. Interestingly the unemployment rate of CAGR has declined at 0.07 per cent during the period of 2011 to 2020. The total period of 1991 to 2020 the unemployment rate has grew at 0.56 per cent. Throughout our economic history, several significant events have significantly impacted the unemployment rate in India.

Impact on Poverty

Rapid population growth is closely associated with persistent poverty in India. When the number of dependents within households increases, families are compelled to allocate a substantial share of their income toward basic needs such as food, education, and healthcare for their children. This reduces household savings and limits the scope for investment [54].

Low savings at both the household and national levels lead to a reduced rate of capital formation. Inadequate capital accumulation restricts investment in improved production technologies, infrastructure, and human capital development. Consequently, productivity levels remain low, particularly in labour-intensive sectors, thereby perpetuating cycles of poverty and underemployment [55].

High population growth also intensifies pressure on limited resources and employment opportunities, contributing to lower per capita income and slower economic progress. Without adequate investment in education, skills, and technological advancement, labour productivity remains stagnant, further constraining economic development [54,56].

Population explosion leads to serious environmental degradation. A higher birth rate increases the demand for resources such as food, water, housing, and energy, which results in greater pollution, more toxic waste, and damage to the biosphere. In many developing countries, rapid population growth places significant pressure on natural ecosystems and can hinder sustainable economic development.

Population explosion also has a significant impact on global warming and climate change. As the population increases, the demand for energy, transportation, and

industrial production rises, which contributes to higher emissions of greenhouse gases such as carbon dioxide (CO₂) and methane (CH₄) [57]. A growing population also puts pressure on natural resources such as forests, land, and water. For example, deforestation reduces carbon sinks and releases stored carbon into the atmosphere, thereby accelerating climate change [58].

Rapid population growth often leads to urbanization. The expansion of cities creates urban heat islands, where urban areas become significantly warmer than surrounding rural regions due to high concentrations of buildings, roads, and human activities. This phenomenon further intensifies the effects of global warming [59].

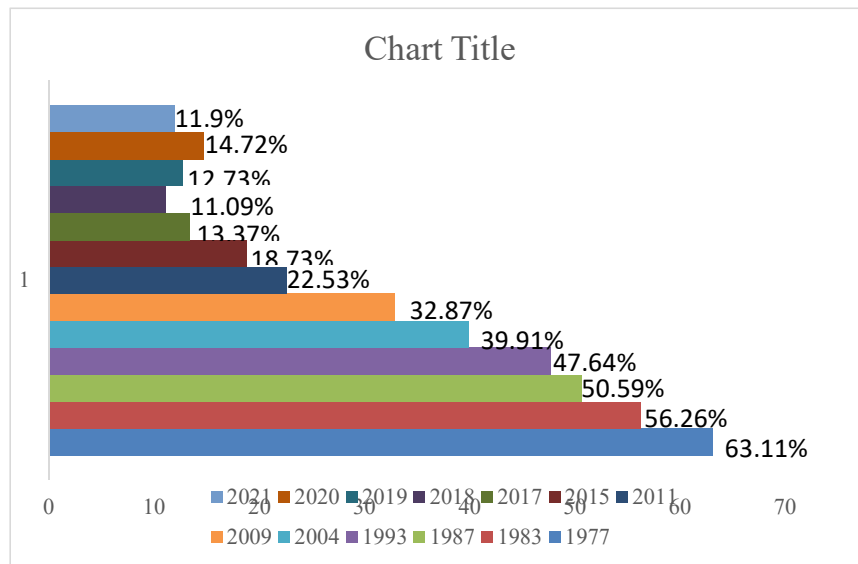
In addition, population growth increases global consumption patterns. Larger populations consume more goods and resources, leading to increased waste generation and environmental pollution. Studies show that the richest 10% of the global population is responsible for about 50% of global greenhouse gas emissions, highlighting the link between population, consumption, and climate change [60].

Poverty Trends in India

The trend in poverty levels in India from 1977 to 2021 is illustrated in Graph 3. During this period, India experienced a significant reduction in poverty. The poverty rate declined substantially from about 63.11% in 1977 to 11.9% in 2021, reflecting long-term progress in economic development and poverty alleviation efforts. Despite this improvement, the poverty rate in 2021 remained slightly higher than the 2018 level of 11.09%, although it showed a recovery compared with the 14.72% recorded in 2020. These fluctuations indicate that while India has made notable progress in reducing poverty, economic disruptions and structural challenges continue to influence poverty levels in the country [61,62].

The Performance of the poverty in India during the period of 1977 to 2021 has been presented in graph 3. Most interestingly the poverty in India has declined 63.11% to 11.9% during the period of 1977 to 2021. However, India's poverty rate at 11.9% in 2021 also remained higher than the 2018 level of 11.09%, though easing from 14.72% in 2020.

Table 3: The Poverty Rate in India during the Period of 1977 to 2021.



Source: CMIE. (2021). Centre for Monitoring Indian Economy, Government of India. [63].

Control Measures / Initiatives

The issue of population explosion is a major concern for the government because it directly affects the country's economic and social development. Recognizing this challenge, both the central and state governments in India have implemented several policies and programs aimed at controlling population growth. These initiatives focus on raising public awareness, promoting responsible parenthood, and encouraging the adoption of family planning practices so that population growth can align with the country's economic development goals [63].

India was the first country in the world to launch a national family planning program in 1952, which aimed to reduce birth rates and promote reproductive health. The program focused on educating the public about the benefits of smaller families and the importance of spacing between births. Government institutions and public agencies were mobilized to spread awareness through mass media campaigns, health centers, and community outreach programs. These initiatives highlighted the advantages of planned families, including improved health, better education opportunities for children, and enhanced economic stability for households [64].

As part of the program, the government expanded access to contraceptive methods and reproductive health services across the country, including rural and remote areas. Low-cost contraceptives were distributed through public health facilities, and sterilization procedures such as vasectomy and tubal ligation were promoted for couples who had already achieved their desired family size. In addition, sex education and reproductive health awareness were gradually introduced to help individuals make informed decisions about family planning. The legalization of abortion under the Medical Termination of Pregnancy (MTP) Act, 1971 also provided women with safer options to avoid unwanted pregnancies [65].

Despite these efforts, population growth continues to pose challenges for India. Therefore, sustained awareness campaigns, improved access to reproductive health services, and comprehensive education programs remain essential. Increasing public understanding of the benefits

of family planning and promoting the use of safe and effective birth control methods can play a crucial role in stabilizing population growth and supporting sustainable national development [64,65].

Conclusion

Family planning plays a crucial role in addressing the challenges of population explosion by empowering individuals and couples to make informed decisions about the number and spacing of their children. It not only helps in stabilizing population growth but also improves the overall quality of life by promoting better health, economic stability, and sustainable use of resources. In the face of rapid population increase, effective family planning measures can reduce pressure on food supply, employment, education, and healthcare systems. Therefore, raising awareness, ensuring access to contraceptive methods, and encouraging responsible parenthood are essential steps toward achieving a balanced population and a sustainable future for society.

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